Experiment No. 4.

Aim:- Interfacing of two different network using "Router".

Theory :-

* Router

A router is an electronic device that interconnects two or more computer networks, & selectively interchanges packets of data between them. Each data packet contains address information that router can use to determine if source & destination are on same network or if data packet must be transferred from one network to another. Where multiple routers are used in large collection of interconnected networks, the routers exchange information about target system addresses so that each router can build up a table showing the preferred paths between any two system on the interconnected networks.

* Gateway

In communications network, a network equipped for interfacing with another network that uses different protocols. A gateway may contain devices such as protocol translator, impedance matching, rate converter, etc. as necessary to provide system interoperability.

Procedure :-

① Open cisco packet tracer & create new project using "ctrl + N".

② Drag & drop some pcs from 'End devices'

③ Drag & drop Router (e.g. cisco 2911) from "Routers" category onto workspace. & switch (e.g. Switch -PT) from "switch").

④ Connect the devices.
Use "connect" tool to connect pcs with switches & connect both switches with router to gigaEthernet.

⑤ Assign Ip address.
• Pcs.
Click on pc → "config" → Give Ip address (Note: Different Network having different series of IP addresses).

⑥ Enable Routing
configure the router to enable routing
between the two different networks.
for configure static routes
  # enable
  # IP address 192.168.20.255.255.0
  # Exit

- Router Interface:- Giga Ether010 → Ip address
  → 192.168.11
- Router Interface:- Giga Ether011 → IP address
  → 192.168.21

⑦ save the configuration & save project

⑧ verify the connectivity between the
two networks by pinging devices from
different networks.

conclusion:- successfully interfaced two
different networks using a router.